AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims in the application.

1. (Currently Amended) A method for measuring IQ path mismatch in transceivers, the method comprising:

estimating a transmitter IQ mismatch in a form of gain and phase response for transmitter I and Q paths sharing a receiver path; and

estimating a receiver IQ mismatch in a form of gain and phase response for receiver I and Q paths sharing a signal source,

wherein the estimating of the transmitter IQ mismatch comprises measuring a difference in the gain and phase response between the transmitter I and Q paths, and the estimating of the receiver IQ mismatch comprises measuring a difference in the gain and phase response between the receiver I and Q paths.

2. (Cancelled)

3. (Currently Amended) The method of claim [[2]]1, wherein the measuring comprises sending a tone signal and measuring a power and phase shift for all of desired frequency points.

4. (Previously Presented) The method of claim 3, wherein the measuring comprises sending uniformly spaced multi-tone white signals, taking a fast Fourier transform (FFT) of a unit period of the uniformly spaced multi-tone white signals, and calculating the response from a power and phase of each tone.

5. (Currently Amended) The method of claim [[2]]<u>1</u>, comprising compensating for the difference of the transmitter and receiver I and Q paths using a digital FIR filter.

6. (Previously Presented) The method of claim 5, comprising utilizing iterative estimation for filter tap parameters during the compensating.

7. (Currently Amended) A system for estimation of IQ path mismatch during signal modulation, the system comprising

a transceiver, the transceiver comprising a transmitter and a receiver; and

a processor coupled to the transceiver, the processor identifying a transmitter IQ mismatch in a form of gain and phase response for transmitter I and Q paths sharing a receiver path, and identifying a receiver IQ mismatch in a form of gain and phase response for receiver I and Q paths sharing a signal source<u>,</u>

<u>wherein the estimating of the transmitter IQ mismatch comprises measuring a difference in the gain and phase response between the transmitter I and Q paths, and</u>

<u>the estimating of the receiver IQ mismatch comprises measuring a difference in the gain and phase response between the receiver I and Q paths</u>.

8. (Cancelled)

9. (Currently Amended) The system of claim [[8]]<u>7</u>, wherein the processor sends a tone signal and measures a power and phase shift for all of desired frequency points.

10. (Previously Presented) The system of claim 9, wherein the processor sends uniformly spaced multi-tone white signals, taking a fast Fourier transform (FFT) of a unit period of the uniformly spaced multi-tone white signals, and calculating the response from a power and phase of each tone.

11. (Currently Amended) The system of claim [[8]]<u>7</u>, comprising a digital FIR filter coupled to the transmitter and receiver paths that compensates for the difference of the transmitter and receiver I and Q paths.

12. (Previously Presented) The system of claim 11, wherein the processor utilizes iterative estimation for filter tap parameters during the compensating.

13. (Original) A method for estimating IQ path mismatch in a transceiver, the method comprising:

measuring a difference in the gain and phase response between transmitter I and Q paths and between receiver I and Q paths of a transceiver, the transmitter I and Q paths sharing a receiver path and the receiver I and Q paths sharing a signal source; and

compensating for the difference of the transmitter and receiver I and Q paths using a digital FIR filter.

14. (Previously Presented) The method of claim 13, wherein the measuring comprises sending a tone signal and measuring a power and phase shift for all of desired frequency points.

15. (Previously Presented) The method of claim 14, wherein the measuring comprises sending uniformly spaced multi-tone white signals, taking a fast Fourier transform (FFT) of a unit period of the uniformly spaced multi-tone white signals, and calculating the response from a power and phase of each tone.

16. (Previously Presented) The method of claim 15, wherein the compensating comprises utilizing iterative estimation for filter tap parameters.

17. (Previously Presented) The method of claim 16, comprising performing the measuring and compensating for spectrum efficient modulation.

18. (Currently Amended) A system for estimation of IQ path mismatch during signal modulation, the system comprising

a processor operatively coupled to a transceiver comprising a transmitter and a receiver, the processor identifying a transmitter IQ mismatch in a form of gain and phase response for transmitter I and Q paths sharing a receiver path, and identifying a receiver IQ mismatch in a form of gain and phase response for receiver I and Q paths sharing a signal source,

wherein the estimating of the transmitter IQ mismatch comprises measuring a difference in the gain and phase response between the transmitter I and Q paths, and the estimating of the receiver IQ mismatch comprises measuring a difference in the gain and phase response between the receiver I and Q paths.

19. (Cancelled)

20. (Currently Amended) The system of claim [[19]]18, wherein the processor sends a tone signal and measures a power and phase shift for all of desired frequency points.

21. (Previously Presented) The system of claim 20, wherein the processor sends uniformly spaced multi-tone white signals, taking a fast Fourier transform (FFT) of a unit period of the uniformly spaced multi-tone white signals, and calculating the response from a power and phase of each tone.

22. (Currently Amended) The system of claim [[19]]18, comprising a digital FIR filter coupled to the transmitter and receiver paths that compensates for the difference of the transmitter and receiver I and Q paths.

23. (Previously Presented) The system of claim 22, wherein the processor utilizes iterative estimation for filter tap parameters during the compensating.